

SAFETY DATA SHEET

TersOx™ Microbe



Revision date: 2019-06-10
Version 1.0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: TersOx™ Microbe

Synonyms: Non-pathogenic, naturally occurring microorganisms absorbed on wheat bran and corn gluten

Product Form: Mixture

Recommended use of the chemical and restrictions on use

Recommended Use: Remediation of contaminated groundwater and soils

Restrictions on Use: Use as recommended by the label

Details of the supplier and of the safety data sheet

Supplier: Tersus Environmental, LLC
1116 Colonial Club Rd
Wake Forest, NC 27587
Phone: +1-919-453-5577
Email: info@tersusenv.com

Contact Person: David F. Alden
Phone: +1-919-453-5577 x2002
Email: david.alden@tersusenv.com

Emergency telephone number

For leak, fire, spill or accident emergencies, call:

+1-919-453-5577 (Tersus Office Hours, 8:00 AM to 5:00 PM Eastern)
+1-800-424-9300 (Chemtrec 24 Hour Service – Emergency Only)
+1-703-527-3887 (Chemtrec Outside United States 24 Hour Service – Emergency Only)
+1-919-638-7892 Gary M. Birk (Outside office hours)

2. HAZARD IDENTIFICATION

Relevant identified uses of the substance or mixture

Hazard Classification	Category	H-statement
Acute toxicity, Inhalation	Not Classified	
Acute toxicity, Oral	Not Classified	
Acute toxicity, Dermal	Not Classified	
Skin irritant, (category 2)	May cause skin irritation	H315
Eye irritant (category 2A)	Causes serious eye irritation	H319
Mutagenicity	Unknown	
Carcinogenicity	Unknown	
Reproductive toxicity	Unknown	

Label elements

Hazard Pictograms

**Signal word**

Warning

Hazard Statements

Causes skin irritation (H315)
Causes serious eye irritation (H319)

Precautionary statements

P264 – Wash thoroughly after handling.
P280 – Wear protective gloves, clothing, eye, and face protection.
P302 + P352 – IF ON SKIN: Wash with soap and plenty of water.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 – If skin irritation occurs: Get medical advice/attention.
P362 + P364 – Take off contaminated clothing and wash it before reuse.

Further information

Crystalline silica is a known cause of silicosis (a non-cancerous lung disease). Prolonged and/or repeated inhalation must be avoided
Persons who have a compromised immune system or a history of severe allergic response should avoid contact and/or breathing dust or mist from product handling or manufacturing processes.

Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Formula

Mixture

Hazardous components

Chemical Name	Concentration (%)	CAS Number
Dolomite	<45	16389-88-1
Crystalline Silica	<0.4	14808-60-7

Non-hazardous components

Chemical Name	Concentration (%)	CAS Number
Wheat Bran		116469-86-4
Corn gluten		66071-96-3
Diatomaceous Earth		91053-39-3
Urea	1 – 3	57-13-6
Diammonium Phosphate	<1	7783-28-0

Synonyms are provided in Section 1.

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

General Information	<p>Check the vital functions. If unconscious place in recovery position and seek medical advice. In case of respiratory arrest, administer artificial respiration. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Take victim to a doctor if irritation persists.</p> <p>Remove affected person from source of contamination.</p>
Eye Contact	<p>Product is a severe eye irritant. Direct contact with eyes must be avoided. In case of contact with eyes, flush eyes with low pressure water for at least 15 minutes. If irritation persists, seek medical attention.</p>
Skin Contact	<p>Product may cause skin irritation. Direct contact with skin should be avoided. In case of contact with skin, wash skin with soap and water. Remove contaminated clothing and wash.</p>
Inhalation	<p>May cause sensitization by inhalation in hypersensitive individuals. Avoid product handling which results in dust generation. If inhaled, remove from contaminated area to fresh air. Report situation. Seek medical attention if allergic response exhibited.</p>
Ingestion	<p>Ingestion of material may cause mouth and throat irritation and/or gastric disturbance. If swallowed, rinse mouth and throat with tap water. Drink water.</p>
Most important symptoms and effects, both acute and delayed	<p>Most important symptoms/effects, acute and delayed: Product is not listed with IARC, NTP, ACGIH or OSHA as a carcinogen.</p>
Indication of any immediate medical attention and special treatment needed	<p>If exposed or concerned, get medical advice and attention.</p>

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	<p>Dry chemical, carbon dioxide, chemical foam or water fog.</p>
Specific Hazards Arising from the chemical or mixture	<p>No special requirements. Organic dusts are a weak explosion hazard. Not hazardous under normal storage and use conditions.</p>
Special Fire Fighting Procedures	<p>Cool containers exposed to flames with water until well after the fire is out. Use water spray to reduce vapors. If risk of water pollution occurs, notify appropriate authorities. Avoid water in straight hose stream; will scatter and spread fire. Keep upwind. Do not inhale explosion and combustion gases. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool containers exposed to flames with water until well after the fire is out. Use water spray to reduce vapors. If risk of water pollution occurs, notify appropriate authorities. Avoid water in straight hose stream; will scatter and spread fire. Wear positive-pressure, self-contained breathing apparatus (SCBA) and chemical protective clothing.</p>

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Provide enough ventilation. Advice for emergency responders: protective equipment see Section 8. Wear protective clothing as described in Section 8 of this safety data sheet.
First Aid:	In case of contact with skin, wash with soap and water. If symptoms occur, seek medical attention. In case of contact with eyes, rinse with plenty of water for at least 15 minutes and see an eye specialist if irritation persists. In case of inhalation, remove to fresh air. In case of ingestion, drink water. If symptoms occur, seek medical assistance.
Environmental Precautions	None
Methods for Containment and Clean Up	Spilled product should be removed immediately to avoid formation of dust

7. HANDLING AND STORAGE

Precautions for safe handling	Avoid creating dust. Adequately ventilate when handling this product. Provide eyewash capability.
Hygiene measures	No special requirements. Contain with applicable regulations. Avoid contact with eyes. Avoid inhalation of vapors and spray/mist. Remove contaminated clothing immediately. Clean contaminated objects and areas thoroughly observing environmental regulations. Keep away from sources of ignition – No smoking. Handle in accordance with good industrial hygiene and safety procedures. Discharge into the environment must be avoided. Keep container tightly closed. Either local exhaust or general room ventilation is usually required.
Conditions for safe storage, including any incompatibilities	Handle in accordance with good industrial hygiene and safety procedures. Use good personal hygiene practices. None

8. EXPOSURE CONTROL / PERSONAL PROTECTION**Control parameters**

Exposure guidelines, ingredients with workplace control parameters.

Name	CAS-No	TLV (ACGIH)	PEL (OSHA)
Dolomite	Dolomite	Dolomite	Dolomite
Urea	<1 – 3	10 mg/m ³ {3}*	15 mg/m ³ {5}*
Diammonium Phosphate	< 1	10 mg/m ³ {3}*	15 mg/m ³ {5}*
Crystalline silica	< 0.4	0.1 mg/m ³	0.1 mg/m ³
Wheat bran		10 mg/m ³ (nuisance dust)	
Corn gluten		10 mg/m ³ (nuisance dust)	
Ground and dehydrated algae		10 mg/m ³ (nuisance dust)	

* Specific limits not set for these chemicals. Limits are shown for Particles Not Otherwise Regulated (PNOR) or Particles Not Otherwise Classified (PNOC). First number is for total dust second number { } is for respirable dust.

Exposure Control**Protective equipment****Appropriate engineering controls**

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients. Do not allow uncontrolled discharge of product into the environment.

Eye/face protection

The following protection should be worn: Safety glasses with shields, chemical splash goggles or face shield.

Respiratory protection

Dust mask or respirator for particle removal (NIOSH)

Hand protection

Neoprene. Vinyl, Rubber (natural, latex), Butyl rubber. Wear protective gloves made of the following material: Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Polyvinyl chloride (PVC). Manufactured/tested in accordance with EN 374, Avoid the following conditions: Polyvinyl alcohol (PVA).

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash promptly if skin becomes contaminated. Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties

Appearance	Tan granular powder
Odor	Mild odor
Odor threshold	Information Not Available
pH	7 – 10 (1% suspension)
Melting point /Freezing Point	Information Not Available
Initial Boiling point and boiling point range	Does Not Apply
Flash Point	Does Not Apply
Evaporation rate	Does Not Apply
Flammability (solid; gas)	Information Not Available
Upper/lower flammability or explosive limits	Does Not Apply
Vapor pressure	Low
Vapor density	Does Not Apply
Relative density	Information Not Available
Solubility (ies)	<5%
Partition coefficient: n-octanol/water	Does Not Apply
Auto-ignition temperature	Information Not Available
Decomposition temperature	Information Not Available
Viscosity	Does Not Apply
Other Physical/Chemical Properties	N/A

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions and use.
Chemical stability	Information not available
Possibility of hazardous reactions	Information not available
Conditions to avoid	Freezing or temperatures above 100°F (40°C)
Incompatible materials	Strong acids, bases, or oxidizers
Hazardous decomposition products	Information not available
Hazardous Polymerization	Information not available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Acute toxicity	Enzymes in this product are non-toxic (LD 50 >2 g/kg in rats). Inhalation of dust may cause respiratory allergy in susceptible individuals.
Skin Corrosion/Irritation	Mild
Serious Eye Damage/Irritation	Mild
Respiratory or Skin Sensitization	Dust may cause irritation or allergy in susceptible individuals. May cause respiratory allergy in susceptible individuals: sensitization (shortness of breath, wheezing, and labored coughing) take individual to emergency room.
Ingestion	May cause severe gastric disturbances, sore throat.
Germ Cell Mutagenicity	Information Not Available
Carcinogenicity	Information Not Available
Reproductive Toxicity	Information Not Available
Specific Target Organ Toxicity – Single Exposure	Information Not Available
Specific Organ Toxicity – Repeated Exposure	Information Not Available
Aspiration Hazard	Information Not Available
General Remarks	Product may contain <1% crystalline silica (CS) Crystalline silica probably carcinogenic. IARC has classified CS as probably carcinogenic for humans (2A). NTP lists CS as a substance which may reasonably be anticipated to be a carcinogen. CS is a known cause of silicosis (a non-cancerous lung disease).

12. ECOLOGICAL INFORMATION

Chemical Fate Information

Product is readily biodegradable in wastewater treatment systems.

Biodegradability

Readily degradable.

Persistence and degradability

Readily biodegradable

Bioaccumulative potential

Information not available

Mobility in Soil

Information not available

Other adverse effects

Information not available

13. DISPOSAL CONSIDERATIONS**Waste Disposal Methods**

Dispose according to federal, state and local laws. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Authority. Waste is suitable for incineration.

14. TRANSPORTATION INFORMATION

UN Number	Mixture not classified as Hazardous according to Regulation (EC) 1272/2008.
UN Proper Shipping Name	n/a
Transport Hazard Class	n/a
Packing Group (if applicable)	n/a
Environmental Hazards	n/a
Special Precautions for User	n/a
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code	n/a
DOT Proper Shipping Name	Chemicals not otherwise indexed (NOI) non-hazardous.

15. REGULATORY INFORMATION

EU Directive 2000_54 regarding risks from biological agents: micro-organisms in Class 1 may be used without restriction.

WGK (Water Hazards Class): 0 non-hazardous to water.

All ingredients used are listed on the USEPA TSCA Inventory list.

Canadian WHMIS: Toxic Class D2B (eye irritant)

16. OTHER INFORMATION

Components not precisely identified are proprietary or non-hazardous. All chemical ingredients appear on the EPA TSCA inventory.

Disclaimer: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. All recommendations for the use of our products, whether given by us, orally or to be implied from data or lab tests results by us, are based on the current state of our knowledge at the time those recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding, such recommendation the user is responsible that the product as supplied by us is suitable to the process or purpose he intends to use it. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of this

product. Since we cannot control the application, use or processing of the product, we do not accept responsibility. Therefore, the user should assure that the intended use of the product will not infringe in any party's intellectual property right.



919.453.5577 • info@tersusenv.com • tersus.com

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End of Safety Data Sheet